

## CLAIMS

sub. a1  
1. An onboard device abnormal connection notification system comprising:

5        an onboard device connected to an in-vehicle network;  
      a monitor means connected to said in-vehicle network for monitoring an abnormality in a state of connection of said onboard device to said in-vehicle network; and

10        a notification means connected to said in-vehicle network for notifying, based on a demand from said monitor means, the abnormality in the (state) of connection of said onboard device.

2. The system according to claim 1, wherein said monitor means demands said onboard device to confirm the connection  
15 thereof to said in-vehicle network and, if there is no response from said onboard device within a lapse of a predetermined period of time, demands said notification means to notify the abnormality.

20        3. The system according to claim 1, wherein said monitor means demands said onboard device to confirm the connection thereof to said in-vehicle network at every predetermined period of time, and wherein said onboard device notifies said notification means of the abnormality in the state of connection  
25 of said monitor means if there is no demand for confirmation of connection from said monitor means at said every predetermined period of time.

4. The system according to claim 1, further comprising  
30 a notification releasing means for temporarily releasing a

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notifying operation of said notification means.

5 5. The system according to claim 1,  
wherein a network identification (ID) for discriminating  
said in-vehicle network is registered in said monitor means  
and said onboard device,

10 wherein, when said onboard device is connected to said  
in-vehicle network to which said monitor means is connected,  
said onboard device obtains from said monitor means a network  
ID in said connected in-vehicle network, compares the  
registered network ID with the obtained network ID, and stops  
the operation of said onboard device if the two ID's are  
different from each other.

15 6. The system according to claim 5, wherein said onboard  
device comprises a nonvolatile memory for registering therein  
the network ID.

20 7. The system according to claim 5, wherein, when a  
display device equipped with an input apparatus for inputting  
the network ID is connected to said in-vehicle network and when  
the network ID is inputted into said input apparatus, said  
display device notifies the inputted network ID to said monitor  
means, said notification means and said onboard device  
25 connected to said in-vehicle network.

30 8. The system according to claim 1, wherein a device  
number is set in advance to said onboard device connected to  
said in-vehicle network, wherein said onboard device grasps  
all the device numbers of onboard devices connected to said

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in-vehicle network, and wherein an onboard device, among the onboard devices to be connected to said in-vehicle network, having a smallest device number operates as said monitor means.

5           9. The system according to claim 8, wherein said monitor means demands said onboard device for confirmation of connection to said in-vehicle network at every predetermined period of time and wherein, if there is no demand for confirmation of connection from said monitor means at said every  
10 predetermined period of time, an onboard device that has set thereto a smallest number exclusive of the device number of said monitor means among the onboard devices connected to said in-vehicle network operates as a new monitor means.

15           10. The system according to claim 1, wherein said in-vehicle network is wirelessly connected.

20           11. The system according to claim 10, wherein said onboard device comprises an interface (I/F) processing section for connection to said in-vehicle network, and wherein said I/F processing section is made of a wirelessly transmitting means.

25           12. An onboard device connected to an in-vehicle network having connected thereto an abnormal connection notification means, characterized in that, in order to notify to said notification means of an abnormality from a monitor means connected to said in-vehicle network, upon receipt of a demand for confirmation of connection to said in-vehicle network, a state of connection is confirmed and reported to said monitor  
30 means.

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13. The onboard device according to claim 12, wherein, if there is no demand for confirmation of connection from said monitor means at every predetermined period of time, the  
5 abnormality in state of connection of said monitor means is notified to said notification means.

14. The onboard device according to claim 12, wherein a network identification (ID) for discriminating said in-vehicle  
10 network is registered,

wherein, when said onboard device is connected to said in-vehicle network to which is connected said monitor means having registered therein a network ID, the network ID of said  
15 connected in-vehicle network is obtained from said monitor means, the registered network ID is compared with the obtained network ID, and the operation of said onboard device is stopped if the two ID's are different from each other.

15. The onboard device according to claim 14, further  
20 comprising a nonvolatile memory for registering the network ID.

16. The onboard device according to claim 12, wherein a device number set in advance to each of onboard devices  
25 connected to said in-vehicle network is grasped, and wherein a device, among the onboard devices to be connected to said in-vehicle network, having a smallest device number operates as said monitor means.

30 17. The onboard device according to claim 16, wherein, if

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there is no demand for confirmation of connection from said monitor means at said every predetermined period of time, an onboard device that has set thereto the smallest number exclusive of the device number of said monitor means among the  
5 onboard devices connected to said in-vehicle network operates as a new monitor means.

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18. The onboard device according to claim 12, further comprising an interface (I/F) processing section for  
10 connection to said in-vehicle network, and wherein said I/F processing section is made of a wirelessly transmitting means.

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